

# Abstract

A catalyst for hydrocracking of heavy oils comprises iron and active carbon having an MCH conversion rate of 40-80 %, a specific surface area of 600-1000 m<sup>2</sup>/g of, a pore volume of 0.5 to 1.4 cm<sup>3</sup>/g, 2-50 nanometers' mesopore volume of not less than 60% and the average pore diameter of 3-6 nanometers, the iron being carried on the active carbon in an amount of 1 to 20 wt.% to the active carbon. The hydrocracking process by using the catalyst includes the first step of conducting hydrocracking at a temperature within the range of 360-450 °C at a hydrogen partial pressure of 2-14 MPaG and the second step of conducting hydrocracking at a temperature within the range of 400-480 °C at a hydrogen partial pressure of 2-18 MPaG, which can suppress generation of coke and remove in a high efficiency heavy metals such as Ni and V, asphaltene, residual carbon, sulfur and nitrogen from the heavy oils.